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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/379,945	08/24/1999	JEFFREY S. ANDERSON	1006-018/MMM	1979
21034	7590	09/19/2005	EXAMINER	
IPSOLON LLP 805 SW BROADWAY, #2740 PORTLAND, OR 97205			MICHALSKI, JUSTIN I	
			ART UNIT	PAPER NUMBER

2644

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/379,945

Applicant(s)

ANDERSON, JEFFREY S.

Examiner

Justin Michalski

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Reconsideration of the election requirement mailed 17 May 2004 has been given and has been withdrawn. Clams 1-30 are pending.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-8, 10-17, 19-26, 28-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Abend (US Patent 4,266,094).

Regarding Claim 1, Abend discloses in a multimedia computer amplified speaker system having a speaker driver for transducing into sound an audio electrical signal that has an amplitude, the improvement comprising: a dynamic bass equalization circuit with a second or higher order active filter having a dynamically adjusted gain and frequency response that vary with the amplitude of the audio electrical signal (Fig. 2, filter associated with Amplifier 42).

Regarding Claim 11, Abend discloses in a multimedia computer amplified speaker system having a speaker driver for transducing into sound an audio electrical

signal that has an amplitude, the improvement comprising: a dynamic bass equalization circuit with a second or higher order Sallen-Key high pass filter having a dynamically adjusted gain and frequency response that vary with the amplitude of the audio electrical signal (Fig. 2, filter associated with amplifier 42)

Regarding Claim 20, Abend discloses 20 in a multimedia computer amplified speaker system having a speaker driver for transducing into sound an audio electrical signal that has an amplitude, the improvement comprising: a dynamic bass equalization circuit with an active filter having a dynamically adjusted gain and frequency response that vary with the amplitude of the audio electrical signal (Fig. 2, filter associated with a amplifier 42).

Regarding Claim 2, Abend further discloses the active filter includes a Sallen-Key high pass filter (Fig. 2).

Regarding Claims 3, 12, and 21, Abend further discloses the dynamically adjusted gain and frequency response are provided by a parallel pair of reversed diodes (84, 86).

Regarding Claims 4, 13, and 22, Abend further discloses active filter includes an amplifier with a negative feedback path that includes a parallel pair of opposed diodes (84,86).

Regarding Claim 5, 14, and 23, Abend further discloses the amplifier includes an output and the negative feedback path includes a resistor connected in series with the parallel pair of opposed diodes and the amplifier output (80).

Regarding Claims 6, 15, and 24, Abend further discloses the amplifier includes a positive feedback path having a voltage divider that voltage divides a feedback voltage (78, 74, 76).

Regarding Claims 7, 16, and 25, Abend further discloses the amplifier includes an output and the negative feedback path includes a resistor connected in series with the parallel pair of opposed diodes and the amplifier output (80).

Regarding Claims 8, 17, and 26, Abend further discloses the active filter includes an amplifier with a positive feedback path having a voltage divider that voltage divides a feedback voltage (78, 74, 76).

Regarding Claims 10, 19, and 28, Abend further discloses a bass equalized audio signal that is delivered to a full-range speaker driver (It is inherent that the audio signal will be delivered to a full-range speaker driver in order to driver a speaker for an audio output).

Regarding Claim 29, Abend discloses in a multimedia computer amplified speaker system having a speaker driver for transducing into sound an audio electrical signal that has an amplitude, a method of operating a bass equalization circuit having a gain and a frequency response, comprising: dynamically adjusting the gain of the bass equalization circuit according to the amplitude of the audio electrical signal to provide an amplitude dependent gain (Fig. 1, 20 and 24); and dynamically adjusting the frequency response of the bass equalization circuit according to the amplitude dependent gain (24).

Regarding Claim 30, Abend further discloses a negative feedback signal through a parallel pair of opposed diodes (84, 86).

***Claim Rejections - 35 USC § 103***

4. Claims 9, 18, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abend (US Patent 4,266,094).

Regarding claim 9, Abend discloses a speaker system as stated apropos of claim 1 above for processing low frequency audio signals (Figs. 1 and 2) but does not disclose the audio signal delivered to a sub-woofer speaker driver. However, it is notoriously well known in the art that low frequency signals can be output to a sub-woofer speaker to produce a high quality low frequency audio output. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to output the low frequency audio output signal to a sub-woofer to produce a high quality low frequency audio output.

Regarding claim 18, Abend discloses a speaker system as stated apropos of claim 11 above for processing low frequency audio signals (Figs. 1 and 2) but does not disclose the audio signal delivered to a sub-woofer speaker driver. However, it is notoriously well known in the art that low frequency signals can be output to a sub-woofer speaker to produce a high quality low frequency audio output. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to output the low frequency audio output signal to a sub-woofer to produce a high quality low frequency audio output.

Regarding claim 27, Abend discloses a speaker system as stated apropos of claim 20 above for processing low frequency audio signals (Figs. 1 and 2) but does not disclose the audio signal delivered to a sub-woofer speaker driver. However, it is notoriously well known in the art that low frequency signals can be output to a sub-woofer speaker to produce a high quality low frequency audio output. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to output the low frequency audio output signal to a sub-woofer to produce a high quality low frequency audio output.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

House (US Patnet 4,809,338) discloses a second or higher order active filter for adjusting the gain and frequency response due to amplitude.

Schott (US Patent 6,665,408) discloses a dynamic bass control circuit with variable cut-off frequency.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (571)272-7524. The examiner can normally be reached on M-F 7-3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JIM



September 9, 2005



VIVIAN CHIN  
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